What is claimed is:

1. A method of embossing a substrate, the method comprising:

providing the substrate having a polymer layer with an outer surface;

directing at least two laser beams onto the polymer layer to interfere the laser beams at an included and azimuthal angles and to cause the interfering laser beams to impinge on the outer surface at a first location, the interfering laser beams defining a first pixel of first predetermined size on the outer surface;

causing the interfering laser beams to ablate the outer surface of the polymer layer and form a first diffraction grating of the first predetermined size, pitch and orientation;

causing the interfering laser beams to impinge on the outer surface of the polymer layer at a second location and define a second pixel of the second predetermined size on the outer surface; and

causing the interfering beams to ablate the outer surface of the polymer layer and form a second diffraction grating of the second predetermined size, pitch and orientation.

2. The method of claim 1, wherein providing the substrate comprises providing a roller.

3. The method of claim 1, wherein causing the interfering beams to impinge on the outer surface at the second location is accomplished by rotational, linear or rotational-linear movement of the substrate.

4. The method of claim 3, wherein the substrate is a roller.

5. The method of claim 1, wherein causing the interfering beams to impinge on the outer surface at the second location is accomplished by moving the interfering beams.

6. The method of claim 1, wherein the polymer layer is made of an epoxy molding resin, acrylated epoxies, acrylated acrylics, polyamides, polyimides, polysulfones, PET

(polyethylene terephthalate), PMMA (polymethyl metacrylate), PTFE (polytetra fluoroethylene), or polycarbonate.

7. The method of claim 1, wherein at least two laser beams are pulsing laser beams.

8. The method of claim 1, wherein defining the second diffraction grating of the second pitch comprises altering the included angle between the interfering laser beams.

9. The method of claim 1, wherein defining the second diffraction grating of the second orientation comprises altering the azimuthal angle of the interfering laser beams.

10. The method of claim 1, wherein the first location coincides with the second location.

11. A method for directly writing a holographic pattern on a seamless base, the holographic pattern comprising a plurality of pixels, the method comprising:

providing the seamless base comprising an outer surface;

providing a first and a second interfering laser beams, the first and second laser beams interfering on the outer at an included angle and at an azimuthal angle;

forming a plurality of diffraction gratings on the outer surface by ablating the outer surface with the first and the second interfering laser beams, the plurality of diffraction gratings corresponding to the plurality of pixels, each diffraction grating having a pitch and an orientation determined by the included angle and the azimuthal angle of the interfering laser beams ablating the outer surface, the plurality of pixels corresponding to the holographic pattern.

12. The method of claim 11, further comprising providing the first and the second interfering laser beams by means of an optical system having a common laser source.

13. The method of claim 11, wherein providing the seamless base comprises providing an embossing base or a master base.

14. The method of claim 11, wherein forming a plurality of diffraction gratings on the outer surface by ablating the outer surface comprises linearly or rotationally moving the seamless base relative to the first and the second interfering laser beams.

15. The method of claim 11, wherein forming a plurality of diffraction gratings on the outer surface by ablating the outer surface comprises moving the first and the second interfering laser beams relative to the seamless base.

16. The method of claim 11, further comprising defining a size of each pixel by controlling cross-sections of the first and the second interfering laser beams.

17. The method of claim 11, wherein providing the first and the second interfering laser beams comprises providing pulsing laser beams.

18. The method of claim 11, wherein the outer surface of the seamless base is made of an epoxy molding resin, acrylated epoxies, acrylated acrylics, polyamides, polyimides, polysulfones, PET (polyethylene terephthalate), PMMA (polymethyl metacrylate), PTFE (polytetra fluoroethylene), or polycarbonate.

19. The method of claim 14, further comprising providing a position control device and a computer for moving the seamless base relative to the first and the second interfering laser beams.

20. A method of seamlessly creating a holographic pattern on a surface, the method comprising:

providing an optical system defining an angle of interference of a first and a second laser beams, the optical system having a component for varying the angle of interference; and

creating the pattern in a pixel-by-pixel fashion with the holographic pattern comprising a plurality of diffraction gratings by ablating the surface with the first and the second laser beams impinging on the surface, thereby forming a plurality of pixels

corresponding to the plurality of the diffraction gratings, the pitch of each diffraction grating being defined by the angle of interference.

21. The method of claim 20, further comprising utilizing the component for varying the angle of interference to emboss the plurality of diffraction gratings having various pitches.

22. The method of claim 20, further comprising providing means for varying an azimuthal angle of the first and the second laser beams.

23. The method of claim 22, further comprising varying the azimuthal angle to emboss the plurality of diffraction gratings having various orientations.

24. The method of claim 20, wherein creating the pattern comprises creating the pattern on a cylinder or an embossing belt.

25. The method of claim 20, wherein creating the pattern is computer controlled.

26. The method of claim 20, wherein the surface is a polymeric surface.

27. A system for holographically ablating a seamless substrate having an outer layer capable of being ablated by a laser, the system comprising:

an optical system comprising means for providing at least two laser beams interfering at an included angle and an azimuthal angle;

position control means for controlling relative motion of the outer layer and the two laser beams, thereby selecting a location of a predetermined pixel on the outer layer;

supporting means for securing the seamless substrate at a distance from the optical means sufficient for the two laser beams to interfere at the predetermined pixel on the outer layer; and

means for moving the seamless substrate and the two laser beams relative to each other.

28. The system of claim 27, further comprising means for varying the included angle and the azimuthal angle.

29. The system of claim 27, wherein means for moving serve to move the seamless substrate and the two laser beams relative to each other in a pixel-by-pixel fashion characterized by ablation of a diffraction grating in each predetermined pixel in each location.

30. The system of claim 27, wherein the optical system further comprises at least one galvoscanner for varying the included angle between the two laser beams.

31. The system of claim 27, wherein the seamless substrate is an embossing roller or belt.

32. The system of claim 27, wherein the outer layer of the seamless substrate is made of an epoxy molding resin, acrylated epoxies, acrylated acrylics, polyamides, polyimides, polysulfones, PET (polyethylene terephthalate), PMMA (polymethyl metacrylate), PTFE (polytetra fluoroethylene), or polycarbonate.

33. The system of claim 29. wherein means for moving move the seamless substrate.

34. The system of claim 29, wherein means for moving move the two laser beams.